SLOVENSKI PREDSTANDARD

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september 2004

Baker in bakrove zlitine - Ugotavljanje vsebnosti antimona - 2. del: Metoda FAAS

Copper and copper alloys - Determination of antimony content - Part 2: FAAS method

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English version

Copper and copper alloys - Determination of antimony content -Part 2: FAAS method

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 133.

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EUROPEAN COMMITTEE FOR STANDARDIZATION COMITÉ EUROPÉEN DE NORMALISATION EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (prEN 14937-2:2004) has been prepared by Technical Committee CEN/TC 133 "Copper and copper alloys", the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

Within its programme of work, Technical Committee CEN/TC 133 requested CEN/TC 133/WG 10 "Methods of analysis" to prepare the following standard:

prEN 133/135-2, Copper and copper alloys — Determination of antimony content — Part 2: FAAS method.

This is one of two parts of the standard for the determination of antimony content in copper and copper alloys. The other part is:

prEN 133/135-1, Copper and copper alloys — Determination of antimony content — Part 1: Spectrometric method.

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1 Scope

This part of this European Standard specifies a flame atomic absorption spectrometric method (FAAS) for the determination of the antimony content of copper and copper alloys in the form of unwrought, wrought and cast products.

The method is applicable to products having antimony mass fractions between 0,02 % and 2,0 %.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

ISO 1811-1, Copper and copper alloys — Selection and preparation of samples for chemical analysis — Part 1: Sampling of cast unwrought products.

ISO 1811-2, Copper and copper alloys — Selection and preparation of samples for chemical analysis — Part 2: Sampling of wrought products and castings.

NOTE Informative references to documents used in the preparation of this standard, and cited at the appropriate places in the text, are listed in the bibliography.

3 Principle (https://standards.iteh.ai)

Dissolution of a test portion in aqua regia followed, after suitable dilution, by aspiration into an air/acetylene flame of an atomic absorption spectrometer. Measurement of the absorption of the 217,6 nm line emitted by an antimony hollow-cathode or electrodeless discharge lamp.

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https://standards.iteh.ai/catalog/standards/sist/5b9b0dd7-01f9-435f-8930-f74d6f8377c9/sist-en-14937-2-2006 **4 Reagents and materials**

4.1 General

During the analysis, use only reagents of recognized analytical grade and only distilled water or water of equivalent purity.

- **4.2** Hydrochloric acid, HC1 (ρ = 1,19 g/m1).
- **4.3** Nitric acid, HNO₃ (*ρ* = 1,40 g/m1).
- **4.4** Nitric acid solution, 1 + 1.

Dilute 500 ml of nitric acid (4.3) with 500 ml of water.

4.5 Antimony stock solution, containing 1,000 g/1 Sb.

- a) Weigh 2,743 0 g of pure potassium antimonyl tartrate hemihydrate [K (SbO) C₄H₄O₆ · 1/2H₂O] and dissolve it in deionized water. Transfer the solution quantitatively to a 1 000 ml one-mark volumetric flask, dilute to the mark with water and mix well.
- b) Weigh (1 ± 0,001) g of pure antimony (Sb ≥ 99,90 %) in a 250 ml beaker. Add 40 ml of nitric acid solution (4.4) and dissolve the metal by boiling. Cool to room temperature, transfer the solution quantitatively into a 1 000 ml one-mark volumetric flask, dilute to the mark with water and mix well.